| Please type a plus sign (+) inside this box | | # | U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERC |
|--|-----------|------------|--|
| Under the Paperwork Reduction Act of 1995, n | o persons | are requir | ed to respond to a collection of information unless it displays a valid OMB control number |

| - | #7 |
|-------|----|
| | ᇜ |

PTO/SB/05 (08-00)
Approved for use through 10/31/2002 OMB 0651-0032
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

UTILITY PATENT APPLICATION **TRANSMITTAL**

| Attorney Docket No. | | | |
|---------------------|------|-------|------|
| First Inventor | RAJA | SINGH | 74CI |
| Title | | | |

(Only for new nonprovisional applications under 37 CFR 1.53(b)) Express Mail Label No.

| | TION ELEMENTS | ADDRESS TO: Assistant Commissioner for Patents Box Patent Application Washington, DC 20224 | | | |
|---|--|--|--|--|--|
| | erning utility patent application contents. | Washington, DC 20231 | | | |
| | orm (e.g., PTO/SB/17) huplicate for fee processing) | 7. CD-ROM or CD-R in duplicate, large table or | | | |
| 2 Applicant claims si See 37 CFR 1.27. | | Computer Program (Appendix) 8. Nucleotide and/or Amino Acid Sequence Submission (if applicable of leasesses) | | | |
| 3. Specification (preferred arrangement) | [Total Pages 7 | (if applicable, all necessary) a. Computer Readable Form (CRF) | | | |
| - Descriptive title | | b. Specification Sequence Listing on: | | | |
| | e to Related Applications Irding Fed sponsored R & D | □ CD-ROM or CD-R (2 copies); or | | | |
| | guence listing, a table, | ` ' ' | | | |
| or a computer p - Background of t | rogram listing appendix | i I LI paper C Statements verifying identity of above copies | | | |
| - Background of t | | | | | |
| | n of the Drawings (if filed) | ACCOMPANYING APPLICATION PARTS | | | |
| - Detailed Descrip - Claim(s) | DUOTI | 9. Assignment Papers (cover sheet & document(s)) 37 CFR 3.73(b) Statement Power of | | | |
| - Abstract of the | Disclosure | 10. (when there is an assignee) Attorney | | | |
| 4. X Drawing(s) (35 U. | S.C. 113) [Total Sheets 4] | 11. English Translation Document (if applicable) | | | |
| 5. Oath or Declaration | [Total Pages 🔼] | 12. Information Disclosure Statement (IDS)/PTO-1449 Copies of IDS Citations | | | |
| | ited (original or copy) | 13. Preliminary Amendment | | | |
| b (for continual | prior application (37 CFR 1.63 (d)) ion/divisional with Box 17 completed) | 14. Return Receipt Postcard (MPEP 503) (Should be specifically itemized) | | | |
| | ON OF INVENTOR(S) | 15. Certified Copy of Priority Document(s) (if foreign priority is claimed) | | | |
| | ement attached deleting inventor(s) ne prior application, see 37 CFR | | | | |
| I — '^' | and 1 33(b). | 16 Other: | | | |
| 6 Application Data | Sheet See 37 CFR 1 76 | | | | |
| or in an Application Data She | et under 37 CFR 1.76: | the requisite information below and in a preliminary amendment, | | | |
| Continuation | Divisional Continuation-in-part (CIP) | of pnor application No | | | |
| Pnor application information | Examiner | Group I Art Unit | | | |
| Box 5b, is considered a part of | | or application, from which an oath or declaration is supplied under n or divisional application and is hereby incorporated by reference. thy omitted from the submitted application parts. | | | |
| | 18. CORRESPONDEN | CE ADDRESS | | | |
| Customer Number or Bar Coo | le Label Iffised Customer No. or Atlach bar o | or X Correspondence address below | | | |
| Name | RAJA SINIGH 7 | UCI | | | |
| | 1155 RENE LEVES | QUE WEST | | | |
| Address | SU17E 3500 | 1 2 - 2 - 1 (12 22 2 - 1 | | | |
| City | | State QUEBEC Zip Code H3B 376 | | | |
| Country | CANADA Telepi | hone 5/4 8 7/ 0984 Fax 5/4 87/3864 | | | |
| Name (Print/Type) | MAJA SINGATUL | Registration No. (Attorney/Agent) | | | |
| Signature | dimili | Date 24 OCT, 2000 | | | |
| Burden Hour Statement This form | s estimated to lave 0 2 hours to complete. Time wil | I vary depending upon the needs of the individual case. Any comments on | | | |

the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231 DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS SEND TO Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231

PTO/SB/17 (09-00)

Approved for use through 10/31/2002 OMB 0651-0032
U.S Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

Complete if Known

FEE TRANSMITTAL for FY 2001

Patent fees are subject to annual revision

| TOTAL | AMOUNT | OF | PAYMEN" |
|-------|----------|------------|----------------|
| IVIAL | AIIOOIII | U , | I TO I INITIAL |

Signature

| | (\$) | 2 | 5 | 5 | | • |
|---|------|--------|---|---|---|---|
| ļ | (Ψ) | حـــــ | _ | _ | y | |

| Complete if Known | | | | | | |
|----------------------|------|-------|------|--|--|--|
| Application Number | | | | | | |
| Filing Date | | | | | | |
| First Named Inventor | RAJA | SINGH | 7461 | | | |
| Examiner Name | | | | | | |
| Group Art Unit | | | | | | |
| Attorney Docket No. | | | | | | |

| METHOD OF PAYMENT | FEE CALCULATION (continued) | |
|---|--|-------------|
| 1. The Commissioner is hereby authorized to charge | 3. ADDITIONAL FEES | |
| indicated fees and credit any overpayments to: Deposit | Large Entity Small Entity Fee Fee Fee Fee Fee Fee Fee Description | Fee Paid |
| Account Number | Code (\$) Code (\$) | Teeralu |
| Deposit Account | 105 130 205 65 Surcharge - late filing fee or oath 127 50 227 25 Surcharge - late provisional filing fee or | |
| Name | cover sheet | |
| Charge Any Additional Fee Required Under 37 CFR 1 16 and 1 17 | 139 130 139 130 Non-English specification | |
| Applicant claims small entity status | 147 2,520 147 2,520 For filing a request for ex parte reexamination | n |
| See 37 CFR 1.27 | 112 920* 112 920* Requesting publication of SIR prior to Examiner action | |
| 2. Payment Enclosed: Check Credit card Money Order Other | 113 1,840* 113 1,840* Requesting publication of SIR after Examiner action | |
| FEE CALCULATION | 115 110 215 55 Extension for reply within first month | |
| 1. BASIC FILING FEE | 116 390 216 195 Extension for reply within second month | <u> </u> |
| Large Entity Small Entity | 117 890 217 445 Extension for reply within third month | <u> </u> |
| Fee Fee Fee Fee Description | 118 1,390 218 695 Extension for reply within fourth month | |
| Code (\$) Code (\$) Fee Paid 101 710 201 355 Utility filing fee 222 | 128 1,890 228 945 Extension for reply within fifth month | ļ |
| 106 320 206 160 Design filing fee | 119 310 219 155 Notice of Appeal | |
| 107 490 207 245 Plant filing fee | 120 310 220 155 Filing a brief in support of an appeal | |
| 108 710 208 355 Reissue filing fee | 121 270 221 135 Request for oral hearing | |
| 114 150 214 75 Provisional filing fee | 138 1,510 138 1,510 Petition to institute a public use proceeding | |
| | 140 110 240 55 Petition to revive - unavoidable | |
| SUBTOTAL (1) (\$) 355.7 | 141 1,240 241 620 Petition to revive - unintentional | |
| 2. EXTRA CLAIM FEES | 142 1,240 242 620 Utility issue fee (or reissue) | |
| Fee from Ext <u>ra Claims below Fee Paid</u> | 143 440 243 220 Design issue fee | |
| Total Claims20** = X = | 144 600 244 300 Plant issue fee | |
| Independent 7 - 3** = X = = | 122 130 122 130 Petitions to the Commissioner | |
| Multiple Dependent | 123 50 123 50 Petitions related to provisional applications | |
| | 126 240 126 240 Submission of Information Disclosure Stmt | |
| Large Entity Small Entity Fee Fee Fee Fee Description Code (\$) Code (\$) | 581 40 581 40 Recording each patent assignment per property (times number of properties) | |
| 103 18 203 9 Claims in excess of 20 | 146 710 246 355 Filing a submission after final rejection (37 CFR § 1 129(a)) | |
| 102 80 202 40 Independent claims in excess of 3 104 270 204 135 Multiple dependent claim, if not paid | 149 710 249 355 For each additional invention to be examined (37 CFR § 1 129(b)) | |
| 109 80 209 40 ** Reissue independent claims over original patent | 179 710 279 355 Request for Continued Examination (RCE) | |
| 110 18 210 9 ** Reissue claims in excess of 20 and over original patent | 169 900 169 900 Request for expedited examination of a design application | |
| SUBTOTAL (2) (\$) | Other fee (specify) | |
| **or number previously paid, if greater, For Reissues, see above | Reduced by Basic Filing Fee Paid SUBTOTAL (3) | 0 |
| SUBMITTED BY | Complete (if applicable) | |
| Name (PrintiType) RATA KINGH TILT | | 11 0984 |

WARNING! Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

(Attorney/Agent)

Date

25

10

PORTABLE HIGH SPEED COMMUNICATION DEVICE PERIPHERAL CONNECTIVITY

BACKGROUND OF THE INVENTION

5 Field of the Invention

The invention relates to a Host Computer system, which receives information, rasterizes it, compresses it, and transmits it to a remote portable device or Personal Computer (PC) system, which decompresses the image to display it on a screen. The result is a cost effective Internet access solution which allows interaction between the device and a Host Computer. It is a further aim of the present invention, to provide connectivity to a variety of Peripheral Devices, such as printers, scanners, etc. The user will also be able to interface with a wide variety of peripheral devices at remote locations without the need for peripheral device driver software installed at the remote location.

Description of the Prior Art

The background of the present invention includes US Patent # 5925103, Internet Access Device, which describes an improved Internet access system, vastly different from the present invention. Other prior art would include palm top computers, hand-held computers and cellular telephones that have limited processing power due to design restrictions. Thus, these computers are much slower for accessing the Internet and World Wide Web. Most prior art does not allow the user to scan and print to a wide variety of peripheral devices from remote locations, without the need for associated software installed in the portable device, as in the present invention.

25

5

10

SUMMARY OF THE INVENTION

The present invention relates to a portable high speed Internet access device that can access the Internet and World Wide Web as a wireless device, and also interface with a variety of peripheral devices remotely.

Prior Art has a Web server connected to the Internet. This server contains a virtual browser which takes the image displayed in the browser and converts this image into a bit map which is compressed, and communicates via telephone lines to a cellular telephone. The cellular telephone is connected to the high speed internet access device of the invention commonly referred to as a PDA (Personal Digital Assistant) which is comprised of a display screen, battery and related microelectronics. This enables the PDA to receive, decompress and view the bit map image sent from the virtual browser, and more importantly, through cellular phone connectivity to be able to input data from the PDA directly onto the server. The PDA and cellular phone combination may be replaced by another computer outfitted with a modem. In particular, the Host Computer or server receives vector information or compressed data in the form of HTML, JPEG, etc., which is displayed on a web page. The virtual browser virtually displays a virtual image on the server. That image, in whole or parts, is recompressed and sent to the PDA. The recompressed data format sent to the PDA, is not necessarily in the same format as the compressed data format first received by the server. Another embodiment involves the server receiving vector information such as HTML or text and then rasterizing it to bit map format. It can then shown in memory through the virtual browser and is recompressed through a "loss less" method and sent to the PDA.

10

15

20

25

Prior Art also comprises the PDA with an electronic touch screen keyboard, which remains invisible and only appears on a portion of the display screen when called upon by touching the keyboard icon. The entire display screen is covered with a transparent touch panel, which is essentially a matrix array of electrodes, which can detect the location of any pressure points applied to it.

In accordance with the present invention, the Host Computer, which contains an operating system such as Windows NT, has a variety of printer driver software installed to enable printing from specific types of printers via a parallel port, serial port, USB port, or other types of ports. Hence, when a print command is executed, data is sent from the printer driver software to the selected port and is intercepted by another software unit, which may compress the data and subsequently diverts it to the portable device via modem. The particular type of printer dedicated to the printer driver software in the Host Computer is connected to the remote PDA or computer, and the data received may be decompressed if necessary by the remote PDA or computer and sent to the corresponding port. The printer connected to this port would print normally from the portable device using its standard protocol as if it were connected directly to the Host Computer. This same principle is applied to all other peripheral devices that may be connected to standard ports on a computer, whereby the peripheral's driver software is installed directly on the Host Computer. This method allows the user to interface with a wide variety of peripheral devices at remote locations without the need for peripheral device driver software installed at the remote location.

5

10

BRIEF DESCRIPTION OF THE DRAWINGS

The invention is described in more detail below with respect to an illustrative embodiment shown in the accompanying drawings in which:

- **Fig. 1** illustrates elements in the Host Computer, which communicates with a remote user and the device of the invention.
- Fig. 2 illustrates the image to be displayed compared with the displayable area of a browser window.
- Fig. 3 shows a typical subdivision of the virtual image to be displayed.
 - Fig. 4 illustrates file formats received and sent by the Host Computer.
 - Fig. 5 illustrates the displayable area of the device with respect to portions of the virtual image, which are sequentially decompressed prior to viewing.
 - Fig. 6 illustrates the portable device of the present invention enabling the user to operate peripheral devices through a standard port or other ports.
 - Fig. 7 illustrates a computer connected to a modem of the present invention enabling the user to operate peripheral devices through a standard port or other ports.

20

25

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

To facilitate description, any numeral identifying an element in one figure will represent the same element in any other figure.

5 The principal embodiment of the present invention aims to provide a portable device that allows a user to access the Internet or the World Wide Web (WWW), which is a device similar to a palm top computer. It is an aim of the present invention, to offer a cost-competitive device. It is a further aim of the present invention to allow the user to interface with a wide variety of peripheral devices at remote locations, without the need for peripheral device driver software installed at the remote location.

Currently, existing palm top devices such as the Palm Pilot VII and Windows CE type devices contain an operating system, and within the operating system a mini-browser to interpret information received from the WWW or Internet and then display this information on the screen. This requires a powerful microprocessor, which is not advantageous in conserving power for portable applications and also minimizing costs.

A general description of the Prior Art is disclosed in **Fig. 1** with further reference to Patent Applications 09/496,172, 09/501,585, 09/504,809, 09/504,808, and 09/504,807. A Host Computer **1** is depicted which is connected to the Internet, and that host may also be a Web server. Running in the Host Computer, is a Web server program **2**. When a remote user **3** requests to view a Web page (or electronic message etc.) the Web server software receives HTML, JAVA, or other types of information and transmits this information to another software, the Browser Translator **4**. This software translates the information, (i.e. the entire

25

10

image comprising graphics and text) received in the form of HTML, Java, etc. (as information may be gathered from different sources) and translates it to a black and white bit map or raster image. In another embodiment, the software translates the information into a raster or color image. The image 5, as shown in Fig. 2, contains the information that would normally be displayed on a single Web page. The translation program therefore, also acts as a virtual browser. As can be seen in Fig. 2, the image 5 to be displayed in a browser window 6 is usually larger than the displayable area of the browser window 6. The cellular telephone 12 of Fig. 1 is connected to the high speed internet access device 18 of the invention commonly referred to as a PDA (Personal Digital Assistant) which is comprised of a display screen 19, battery and related micro-electronics. This enables the PDA to receive, decompress and view the bit map image sent from the virtual browser 6, and more importantly, through cellular phone connectivity to be able to input data from the PDA directly onto the server. In particular, the Host Computer or server receives vector information or compressed data in the form of HTML, JPEG, etc., which is displayed on a web page. The virtual browser virtually displays a virtual image on the server. That image, in whole or parts, is recompressed and sent to the PDA. The recompressed data format sent to the PDA, is not necessarily in the same format as the compressed data format first received by the server, as illustrated in Fig. 4. For example, the incoming data from a Web page may be in the form of JPEG which is decompressed and displayed on the virtual browser. This data is recompressed and sent to the PDA but can be in the form of TIFF G4 or other formats, and not necessarily JPEG as initially received.

Another embodiment involves the server receiving vector information such as HTML or text and then rasterizing it to bit map format. It can then

20

25

5

10

shown in memory through the virtual browser and is recompressed through a "loss less" method and sent to the PDA.

The image 5 of Fig. 2 is further divided into sections 7, 8, 9, and 10, as shown in Prior Art of Fig. 3. The image is divided after the bitmap or raster is created. The reason for the division (as will be explained later) is for the purpose of display priority on the user's display. The image 5 is then sent to another program 11 running on the Host Computer 1 (Fig. 1), which compresses the image using a loss-less compression method. The compression method may be group 3 or group 4, or another method. The programs 4 and 11 can have multiple instances running simultaneously on the host server for the purpose of connecting to multiple users. The compressed image, after being processed by program 11, is sent to the user, using a protocol in which information may be broken down into packets.

The information is received by the device 18 of the invention in Fig. 5 which has the ability to display a monochrome image 20, in its display window 19. The information is decompressed and displayed in the order of priority such that part of image 7 of Fig. 5, which substantially or completely covers the displayable area 19 of the device, is decompressed and displayed first and then sequentially the portions 8, 9 and 10 of the image are decompressed, and stored in an internal memory of the device to be displayed later when the user scrolls up, down, or sideways to these parts of the image.

In further Prior Art, the information received from the server by the device 18 of the invention in Fig. 5 remains compressed, and only the area viewed by the device is decompressed, since the area of a web page to be

20

25

5

10

viewed is larger than the device's display area. As the user scrolls up, down or sideways, only the parts of the image to be displayed are decompressed prior to viewing.

A CPU resident in the device therefore has the ability to decompress a bit map or raster image that may be larger than the size of the display and allow the user to traverse this bit map or raster image. The primary method of traversing the image is through conventional scroll bars positioned at the sides of the image. The resident CPU on the device has no ability to determine which part or parts of the image that are being displayed represent links to other Web pages, etc. Thus, the translator program 4 (Fig. 1) translates the image in the virtual browser 6 such that the words that represent links on the page 5 (Fig. 2) are translated to be slightly bolder or underlined. The user may therefore consider text that is bold or underlined to be links.

In accordance with Fig. 6 of the present invention, the Host Computer 1, contains an operating system 20 such as Windows NT, and has a variety of peripheral driver software 21 installed, to enable operation of these peripheral devices via a standard port 22, which may be a parallel port, serial port, USB port, or other types of ports. The present invention allows the user to interface the portable device 18 with a variety of peripheral devices 24 through a similar port 23 which may be the same as the standard port 22 or a compact version, or a wireless interface. For demonstration purposes, the peripheral device 24 will be a printer connected to port 23 on the portable device. Hence, when a user wishes to print a viewed document on the portable device, a print command is executed by the portable device 18, and a print message is sent to the Host Computer 1, which instructs the Host Computer that a print command

20

25

10

has been executed by the portable device. The Host Computer 1 initiates the printer driver software 21, which brings up a window displaying various print options for the user to make selections. An image of this window is sent from the Host Computer 1 to the portable device 18 to be displayed on its screen. The user would then click on various parts of the image on the display screen and a message is sent each time to the Host Computer informing of the click locations, and the Host Computer would input these clicks in the identical corresponding locations on its window of the printer driver's displayed print options. Any changes made to the display of this window on the Host Computer as a result of these instructions would result in a refreshed image of this window being sent to the portable device 18 to be displayed on its screen. When the user is satisfied with the print options selected and clicks on the "OK" icon on the screen of the portable device 18, a message is sent to the Host computer which enters "OK" in the identical corresponding location on its window of the printer driver's The print option window disappears and a displayed print options. refreshed image of the document appears on the screen of the Host Computer, and an image of this is sent to the portable device to be displayed. The application program running in the Host Computer 1 sends the data to be printed to the printer driver software 21, which transforms this data to a language the printer can understand. Hence, this data to be printed is then sent by the printer driver software 21 to the port 22 on the Host Computer 1, which supports two-way communication with any printer connected to port 22, but this data transfer is intercepted by software 25 which diverts it to the port 23 on the portable device 18. The software 25 basically transports the port 22 on the Host Computer 1 to the port 23 on the portable device 18, so that the printer driver software 21 believes it is communicating with port 22 on the Host Computer 1, whereas it is actually communicating with port 23 on the portable device 18. The software 25

10

15

2.0

25

interacts with another software 29 in the portable device 18, to support a two-way communication between the port 23 and the printer 24 as data is transferred back and forth between the printer driver 21 and the printer 24.

In another embodiment of the invention, the print command is executed by the user 3 of Fig. 6, from the portable device 18. A print icon is selected from the display screen of the portable device, and the location of the selected print icon on the display screen is sent as a message to the Host Computer 1, which has a mapped layout of the portable devices' display screen and determines that a print command has been executed. The Host Computer 1 initiates the printer driver software 21, which brings up a window displaying various print options for the user to make selections. An image of this window is sent from the Host Computer 1 to the portable device 18 to be displayed on its screen. The user would then click on various parts of the image on the display screen and a message is sent each time to the Host Computer informing of the click locations, and the Host Computer would input these clicks in the identical corresponding locations on its window of the printer driver's displayed print options. Any changes made to the display of this window on the Host Computer as a result of these instructions would result in a refreshed image of this window being sent to the portable device 18 to be displayed on its screen. When the user is satisfied with the print options selected and clicks on the "OK" icon on the screen of the portable device 18, a message is sent to the Host computer which enters "OK" in the identical corresponding location on its window of the printer driver's displayed print options. The print option window disappears and a refreshed image of the document appears on the screen of the Host Computer, and an image of this is sent to the portable device to be displayed. The application program running in the Host Computer 1 sends the data to be printed to the printer driver software 21,

20

25

10

which transforms this data to a language the printer can understand. Hence, this data to be printed is then sent by the printer driver software 21 to the port 22 on the Host Computer 1, which supports two-way communication with any printer connected to port 22, but this data transfer is intercepted by software 25 which diverts it to the port 23 on the portable device 18. The software 25 basically transports the port 22 on the Host Computer 1 to the port 23 on the portable device 18, so that the printer driver software 21 believes it is communicating with port 22 on the Host Computer 1, whereas it is actually communicating with port 23 on the portable device 18. The software 25 interacts with another software 29 in the portable device 18, to support a two-way communication between the port 23 and the printer 24 as data is transferred back and forth between the printer driver 21 and the printer 24.

In another embodiment of the invention, in accordance with Fig. 7, the portable device may be another computer 27 connected to a dedicated modem 28, which receives data from the modem 26 on the Host Computer 1. The computer 27 is a simple terminal with no operating system running in it, similar to the portable device 18. This embodiment allows the user to interface the computer 27 with a variety of peripheral devices 24 through a similar port 23 which may be the same as the standard port 22 or a compact version, or a wireless interface. For demonstration purposes, the peripheral device 24 will be a printer connected to port 23 on the computer Hence, when a user wishes to print a viewed document on the **27**. computer 27, a print command is executed by the computer 27, and a print message is sent to the Host Computer 1, which instructs the Host Computer that a print command has been executed by the computer 27. The Host Computer 1 initiates the printer driver software 21, which brings up a window displaying various print options for the user to make

20

25

10

selections. An image of this window is sent from the Host Computer 1 to the computer 27 to be displayed on its screen. The user would then click on various parts of the image on the display screen and a message is sent each time to the Host Computer informing of the click locations, and the Host Computer would input these clicks in the identical corresponding locations on its window of the printer driver's displayed print options. Any changes made to the display of this window on the Host Computer as a result of these instructions would result in a refreshed image of this window being sent to the computer 27 to be displayed on its screen. When the user is satisfied with the print options selected and clicks on the "OK" icon on the screen of the computer 27, a message is sent to the Host computer which enters "OK" in the identical corresponding location on its window of the printer driver's displayed print options. The print option window disappears and a refreshed image of the document appears on the screen of the Host Computer, and an image of this is sent to the computer 27 to be displayed. The application program running in the Host Computer 1 sends the data to be printed to the printer driver software 21, which transforms this data to a language the printer can understand. Hence, this data to be printed is then sent by the printer driver software 21 to the port 22 on the Host Computer 1, which supports two-way communication with any printer connected to port 22, but this data transfer is intercepted by software 25 which diverts it to the port 23 on computer 27. The software 25 basically transports the port 22 on the Host Computer 1 to the port 23 on the computer 27, so that the printer driver software 21 believes it is communicating with port 22 on the Host Computer 1, whereas it is actually communicating with port 23 on the computer 27. The software 25 interacts with another software 29 in the computer 27, to support a two-way communication between the port 23 and the printer 24 as data is transferred back and forth between the printer driver 21 and the printer 24.

I claim:

5

10

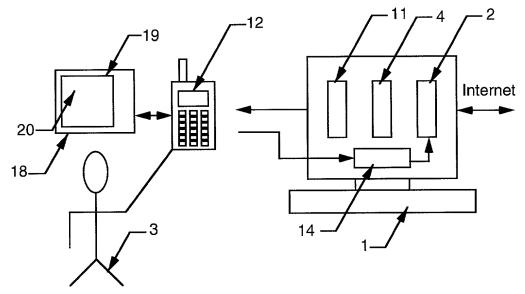
1. A Host Computer system that directs information to software associated with a peripheral device, which modifies this information to be recognized by the peripheral device, and transmits it to a connecting port capable of interfacing with the peripheral device, to be intercepted by another software unit which diverts it to a remote device, that directs it to the peripheral device connected to same remote device, such that a two way communication channel is provided between the Host Computer and the peripheral device to allow data to be sent between them.

15

20

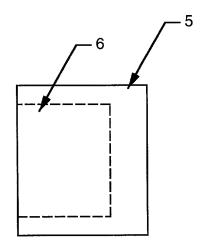
ABSTRACT

The invention relates to a Host Computer system, which receives information from the Internet, rasterizes it, compresses it and transmits it to a portable device which decompresses the image to display it on a screen. The Host Computer may also transmit to another computer outfitted with a modem. The Host Computer which contains an operating system, has a variety of peripheral device driver software installed to enable interacting with these peripheral devices via a parallel port, serial port, USB port, or other types of ports. Hence, when a peripheral device related command is executed, data is sent from the peripheral device driver software to the selected port on the Host Computer and is intercepted by another software unit, which may compress this data and subsequently diverts it to the portable device via modem. The particular type of peripheral device dedicated to the peripheral device driver software in the Host Computer is connected to the portable device or computer, and the compressed data received is decompressed by the portable device or computer and sent to the corresponding port. This method allows the user to interface with a wide variety of peripheral devices at portable locations without the need for peripheral device driver software installed at the remote location.



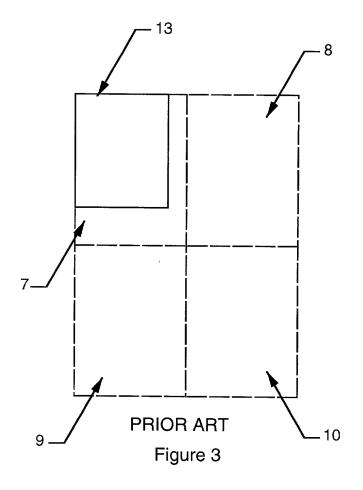
PRIOR ART

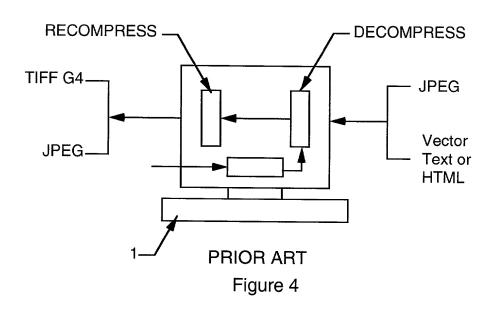
Figure 1

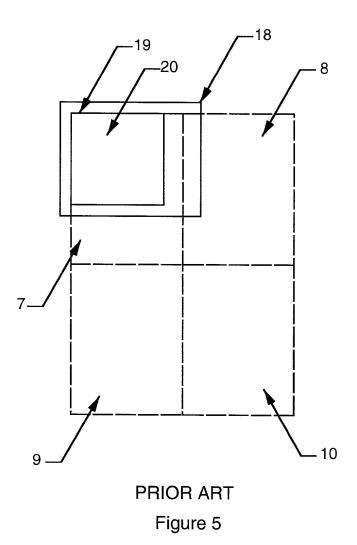


PRIOR ART

Figure 2







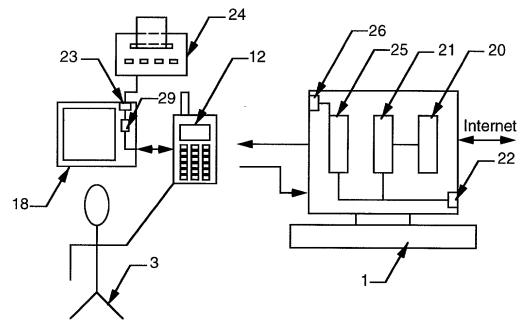


Figure 6

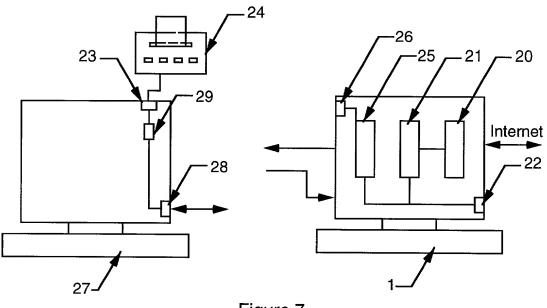


Figure 7

| Please type a plus sign (+) inside this box | \rightarrow | |
|---|---------------|--|
|---|---------------|--|

PTO/SB/01 (10-00)

Approved for use through 10/31/2002 OMB 0651-0032

U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

| DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63) | | Attorney Docket Number | | | |
|--|-------------------------|------------------------|-----------------|--|--|
| | | First Named Inventor | RAJA SINGH TUKI | | |
| | | COMPLETE IF KNOWN | | | |
| | | Application Number | / | | |
| © Declaration Submitted With Initial Filing © Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required) | | Filing Date | | | |
| | Submitted after Initial | Group Art Unit | | | |
| | (37 ČFR 1.16 (e)) | | Examiner Name | | |

| As a below named inventor, I he | reby declare that: | | | | | |
|---|--|---------------------------------|---|--|--|--|
| My residence, mailing address, and | d citizenship are as stat | ed below next to my na | me | | | |
| I believe I am the original, first and names are listed below) of the sub | | | | | | |
| PORTABLE HIGH | SPEED COMM! | UNICATION DE | EVICE PERIA | HERAL CONNECTIVITY | | |
| | (7 | itle of the Invention) | | , | | |
| the specification of which | , | , | | | | |
| is attached hereto | | | | | | |
| OR was filed on (MM/DD/YYYY) | | as United S | States Application N | Number or PCT International | | |
| was filed on (MIM/DD/1111) | | | | (if applicable) | | |
| Application Number | and was a | mended on (MM/DD/YY | YY) | | | |
| I hereby state that I have reviewer amended by any amendment spe | d and understand the co | ontents of the above ide re. | ntified specification | n, including the claims, as | | |
| I acknowledge the duty to disclose in-part applications, material inform PCT international filing date of the | mation which became a | vaılable between the fili | s defined in 37 CF ng date of the prio | R 1.56, including for continuation- r application and the national or | | |
| I hereby claim foreign priority ber certificate, or 365(a) of any PCT America, listed below and have certificate, or any PCT internation | intemational application also identified below. | which designated at le | east one country of any foreign applic | ther than the United States of ation for patent or inventor's | | |
| Prior Foreign Application Number(s) | Country | Foreign Filing Date | Priority Not Claimed | Certified Copy Attached? YES NO | | |
| Number (3) | | (MINISODITITI) | Trot Oranica | 123 140 | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto. | | | | | | |
| I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below. | | | | | | |
| Application Number(s) | Filing Dat | e (MM/DD/YYYY) | Addition | al provisional application | | |
| | | | | ai provisional application | | |
| | 1 | | supplem | ental priority data sheet | | |
| | | | PTO/SB/ | /02B attached hereto. | | |
| | | | | | | |

[Page 1 of 2]

Burden Hour Statement This form is estimated to take 21 minutes to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time, you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO Assistant Commissioner for Patents, Washington, DC 20231.

DECLARATION — Utility or Design Patent Application

| Direct all correspondence to: | Customer Number or Bar Code Label | | | OR 🗓 | Correspondence address below |
|---|--|----------------|-------------|---------------------|--|
| Name RAJA S | INGH TU | LI | | | |
| Address 1155 RE | WE LEXE | squ | E W | EST | |
| Address SUITE S | 3500 | | r | | |
| city MONTR | EAL | | State | QUEBEC | ZIP H3B 376 |
| Country CANADA | Telephon | e <i>514</i> | 871 | 0984 | Fax 5148713864 |
| I hereby declare that all statements mad are believed to be true, and further tha made are punishable by fine or imprisor validity of the application or any patent is | t these statements we nment, or both, under 1 | re made wi | th the kno | owledge that willfo | ul false statements and the like so |
| NAME OF SOLE OR FIRST INV | ENTOR: | | A petition | on has been fil | ed for this unsigned inventor |
| Given Name (first and middle/lif aryl) RAJA | SINGH | | Family N | , , | 161 |
| Inventor's Xay W | | | | | Date 24 OCT, 2000 CANADIAN Citizenship |
| Residence: City MON | TREAL | QUE E State | SEC | CANADA Country | CANADIAN Citizenship |
| Mailing Address (156 | RENE | LEVO | = S q | UE W | EST |
| Mailing Address | E 350 | | | | |
| | | | ZIP H | 3B 3T6 | COUNTRY COUNTRY |
| NAME OF SECOND INVENTOR | : | | A petition | on has been fil | ed for this unsigned inventor |
| Given Name (first and middle [if any]) | | | Family N | | |
| Inventor's Signature | | | | | Date |
| Residence: City | | State | | Country | Citizenship |
| Mailing Address | | | | | |
| Mailing Address | | | | | |
| City | State | | ZIP | | Country |
| Additional inventors are being named | on the suppleme | ntal Additio | nal Invent | or(s) sheet(s) PT | D/SB/02A attached hereto |